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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PEREZ, ANGELICA

ART UNIT PAPER NUMBER

2684

DATE MAILED: 08/03/2004

*10*

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/897,102

Applicant(s)

ISHIKAWA, YOSHIHIRO

Examiner

Angelica M. Perez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/897,102.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed on May 3, 2004 have been fully considered but they are not persuasive.

In the remarks the applicant argued in substance:

(A) In page 12, lines 1-6, applicant argues that Balog is directed to select between two different networks.

In response to argument (A), the examiner points to paragraph 0004; where the art indicates that two different networks comprise a same physical connection for sub-networks where together provide service within the same service area. Therefore, the *prima facie* case of obviousness applies when combining Wallstedt's and Balog's art.

(B) In page 13, lines 11-21 and page 14, lines 4-7, "...Spears...fails to teach or suggest a computer-readable storage medium..."

In response to argument (B), the examiner points that the computer-readable medium described in Spears in combination with Wallstedt's and DeSantis prepares an auxiliary reference list for soft handoffs corresponding to what the applicant's invention presents.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-14 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallstedt (Wallstedt et al.; US Patent No.: 5,854,981) in view of DeSantis (DeSantis et al US Patent No.: 6,728,540 B1).

Regarding claim 1 and 8, Wallstedt teaches of an operation data creating method and apparatus (column 4, lines 7-11 and the abstract) for creating operation data indicating with respect to each base station other base stations related to each base station (column 4, lines 28-34), based on a communication quality level (column 4, lines 37-42) with respect to each base station at each local position within a service area in a mobile communication system (column 4, lines 31-33) which includes a plurality of base stations set up within the service area (figure 1, items B1-B10) and a mobile station (figure 1, items M1-M10) which makes a wireless communication with the base stations (figure 1), the operation data creating method comprising the steps of: creating quality information indicating the communication quality level with respect to each base station at each local position within the service area (column 4, lines 58-66).

Wallstedt does not specifically teach of selecting base stations having a second highest or subsequent communication quality level which is lower than a

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highest communication quality level at each local position where the same base station of interest has the highest communication quality level, based on the created quality information with respect to each base station at each local position; and creating the operation data indicating the selected base stations as the other base stations related to the base station of interest having the highest communication quality level.

In related art concerning assisted handover in a wireless communication system, DeSantis teaches of selecting base stations having a second highest or subsequent communication quality level which is lower than a highest communication quality level at each local position where the same base station of interest has the highest communication quality level (column 5, lines 40-43; where the present base station holds the highest quality level and is anticipating handover), based on the created quality information with respect to each base station at each local position (column 5, lines 51-54; where the participating stations are the neighboring stations); and creating the operation data indicating the selected base stations as the other base stations related to the base station of interest having the highest communication quality level (column 5, lines 50-59; the "rank-ordered based" list holds the information in order in case of handover request); where the "rank-ordered" list based on RSS corresponds to a ordered list that contains a first, second, third, etc. RSS. Moreover, RSS is a parameter that defines quality of service. Also, it is inherent in the art regarding quality of service to consider the highest quality first and move in a descending order if options are required).

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It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Wallstedt's method for creating data based on a best quality level with DeSantis's ordered list in order to select the base station with the next best signal strength to preserve a high quality of service, as taught by DeSantis.

Regarding claims 2 and 9, Wallstedt in view of DeSantis teaches all the limitations of claim 1. Wallstedt further teaches where the communication quality level with respect to each base station at each local position within the service area is computed by estimation according to a predetermined algorithm (column 5, lines 8-13; where the matrix is an algorithm), and the quality information is created based on a computed result (column 5, lines 13-16).

Regarding claims 3 and 10, Wallstedt in view of DeSantis teaches all the limitations of claim 1. Wallstedt further teaches where: the communication quality level with respect to each base station at each local position within the service area is measured (column 5, lines 8-13), and the quality information is created based on a measured result (column 5, lines 13-16).

Regarding claims 4 and 11, Wallstedt in view of DeSantis teaches all the limitations of claim 1. Wallstedt further teaches where: one of the base stations having the second or subsequent communication quality level is selected if the same base station having the second or subsequent communication quality level at a plurality of local positions, when selecting the base stations having the second or subsequent communication quality level at each local position where the same base station of interest has the highest communication quality level

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(page 4, paragraphs 0039 and 0040).

Regarding claims 5 and 12, Wallstedt in view of DeSantis teaches all the limitations of claim 1. Wallstedt also teaches of creating a list having the base stations arranged at positions in an order from a highest communication quality level based on the created quality information, with respect to each local position (column 9, lines 39-44); Wallstedt further teaches of selecting base stations located at a second or subsequent position in each list having the same base station positioned at a first position having the highest order in each list (page 4, paragraph 0039); and creating operation data indicating the selected base stations as the other base stations related to the base station located at the first position having the highest order in each list (page 4, paragraph 0040; where when referring to quality, the highest quality is preferred in a service area).

Regarding claim 6 and 13, Wallstedt in view of DeSantis teaches all the limitations of claim 5. DeSantis also teaches, where: the base stations are successively selected from the positions having the higher order in each list, when selecting the base stations located at the second or subsequent position in each list having the same base station positioned at the first position having the highest order in each list (column 5, lines 51-59), and the operation data created indicate the selected base stations as the other base stations related to the base station at the first position having the highest order in each list, in a state where the selected base stations are arranged in the selected order (column 5, lines 51-59; where the "rank-ordered" list based on RSS corresponds to a ordered list that contains a first, second, third, etc. RSS. Moreover, RSS is a parameter that

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defines quality. Also, it is inherent in the art regarding quality to consider the highest quality first and move in a descending order if options are required).

Regarding claims 7 and 14, Wallstedt and DeSantis teach all the limitations of claim 6. In addition, DeSantis teaches, where: score information corresponding to a number of the same base station located at the same position in each list is generated, when successively selecting the base stations located at the second or subsequent positions in each list having the same base station located at the first position having the highest order in each list, from the base stations located at positions having the higher order in each list (column 5, lines 51-59), and Wallstedt teaches where the operation data created indicate the selected base stations as the other base stations related to the base station at the first position having the highest order in each list, in a state where the score information is made to correspond to the same base station located at the same position in each list (column 5, lines 51-59). Where it is inherent in the art regarding quality to consider the highest quality first and move in a descending order if options are required).

Regarding claim 22, Wallstedt teaches of an operation data creating apparatus (column 4, lines 7-11 and the abstract) for creating operation data indicating with respect to each base station other base stations related to each base station (column 4, lines 28-34), based in a communication quality level (column 4, lines 37-42) with respect to each base station at each local position within a service area in a mobile communication system (column 4, lines 31-33) which includes a plurality of base stations set up within the service area (figure 1,



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items B1-B10) and a mobile station (figure 1, items M1-M10) which makes a wireless communication with the base stations (figure 1); comprising: a quality information creating part configured to create quality information indicating the communication quality level with respect to each base station at each local position within the service area (column 4, lines 58-66).

Wallstedt does not specifically teach of a related base station selecting part configured to select base stations having second highest or subsequent communication quality level which is lowest than a highest communication quality level at each local position where the same base station of interest has the highest quality level, based on the created quality information with respect to each base station at each local position; and a creating part configured to create the operation data indicating the selected base stations as the other base stations related to the base station of interest having the highest communication quality level.

In related art concerning assisted handover in a wireless communication system, DeSantis teaches of selecting base stations having a second highest or subsequent communication quality level which is lower than a highest communication quality level at each local position where the same base station of interest has the highest communication quality level (column 5, lines 40-43; where the present base station holds the highest quality level and is anticipating handover), based on the created quality information with respect to each base station at each local position (column 5, lines 51-54; where the participating stations are the neighboring stations); and creating the operation data indicating

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the selected base stations as the other base stations related to the base station of interest having the highest communication quality level (column 5, lines 50-59; the "rank-ordered based" list holds the information in order in case of handover request); where the "rank-ordered" list based on RSS corresponds to a ordered list that contains a first, second, third, etc. RSS. Moreover, RSS is a parameter that defines quality of service. Also, it is inherent in the art regarding quality of service to consider the highest quality first and move in a descending order if options are required).

4. Claims 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallstedt in view of DeSantis and further in view of Spear (Spear, Stephen L.; US Patent No.: 6,289,220 B1).

Regarding claim 15, Wallstedt teaches of the process of (column 4, lines 7-11 and the abstract) creating operation data indicating with respect to each base station other base stations related to each base station (column 4, lines 28-34), based on a communication quality level (column 4, lines 37-42) with respect to each base station at each local position within a service area in a mobile communication system (column 4, lines 31-33) which includes a plurality of base stations set up within the service area (figure 1, items B1-B10) and a mobile station (figure 1, items M1-M10) which makes a wireless communication with the base stations (figure 1), a quality information creating procedure indicating the communication quality level with respect to each base station at each local position within the service area (column 4, lines 58-66).

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Wallstedt does not specifically teach of selecting base stations having a second highest or subsequent communication quality level which is lower than the highest communication quality level at each local position where the same base station of interest has a highest communication quality level, based on the created quality information with respect to each base station at each local position; and creating the operation data indicating the selected base stations as the other base stations related to the base station of interest having the highest communication quality level.

In art related to mobility in wireless communication systems, DeSantis teaches of selecting base stations having a second or subsequent communication quality level at each local position where the same base station of interest has a highest communication quality level, based on the created quality information with respect to each base station at each local position; and creating the operation data indicating the selected base stations as the other base stations related to the base station of interest having the highest communication quality level (column 5, lines 51-59; where the "rank-ordered" list based on RSS corresponds to a ordered list that contains a first, second, third, etc. RSS. Moreover, RSS is a parameter that defines quality of service. Also, it is inherent in the art regarding quality of service to consider the highest quality first and move in a descending order if options are required).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Wallstedt's with DeSantis's ordered list and computer readable program in order to select the base station with the next best

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signal strength to preserve a high quality of service, as taught by DeSantis.

Wallstedt in view of DeSantis does not specifically teach of a computer-readable storage medium which stores a program for causing a computer to carry out a process as described in the present application.

In related art concerning generating neighbor cell lists in a cellular environment having a first cell and a plurality of neighbor cells, Spear teaches of a computer-readable storage medium which stores a program for causing a computer to carry out a process as the one described in claim 1 (column 4, lines 50-59).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Wallstedt's and DeSantis's method for creating operation data with Spear's computer-readable storage medium in order to maintain records and information relating to the identity of the controllers for neighboring cells and the address information associated with them, as taught by Spear.

Regarding claim 16, Wallstedt in view of DeSantis and in further view of Spear teaches all the limitations of claim 15. Wallstedt further teaches where the quality information creating procedure causes the computer to measure the communication quality level with respect to each base station at each local position within the service area is computed by estimation according to a predetermined algorithm (column 5, lines 8-13; where the matrix is an algorithm), and the quality information is created based on a computed result (column 5, lines 13-16).

Regarding claim 17, Wallstedt in view of DeSantis and in further view of Spear teaches all the limitations of claim 15. Wallstedt further teaches where where the quality information creating procedure causes the computer to measure the communication quality level with respect to each base station at each local position within the service area is measured (column 5, lines 8-13), and the quality information is created based on a measured result (column 5, lines 13-16).

Regarding claim 18, Wallstedt in view of DeSantis and in further view of Spear teaches all the limitations of claim 15. Wallstedt further teaches where the related base stations selecting procedure causes the computer to select one of the base stations having the second or subsequent communication quality level is selected if the same base station having the second or subsequent communication quality level at a plurality of local positions, when selecting the base stations having the second or subsequent communication quality level at each local position where the same base station of interest has the highest communication quality level in each list (page 4, paragraphs 0039 and 0040).

Regarding claim 19, Wallstedt in view of DeSantis and in further view of Spear teaches all the limitations of claim 15. Wallstedt also teaches where the related base stations selecting procedure includes a list creating procedure which causes the computer to create a list having the base stations arranged at positions in an order from a highest communication quality level based on the created quality information, with respect to each local position (column 9, lines 39-44); Wallstedt further teaches of selecting base stations located at a second

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or subsequent position in each list having the same base station positioned at a first position having the highest order in each list (page 4, paragraph 0039); and creating operation data indicating the selected base stations as the other base stations related to the base station located at the first position having the highest order in each list are created (page 4, paragraph 0040; where when referring to quality, the highest quality is preferred in a service area).

Regarding claim 20, Wallstedt in view of DeSantis and further in view of Spear teaches all the limitations of claim 19. DeSantis also teaches, where: the related base station selecting procedure causes the computer to successively select the base stations from the positions having the higher order in each list, when selecting the base stations located at the second or subsequent position in each list having the same base station positioned at the first position having the highest order in each list (column 5, lines 51-59; where neighboring cell positions are selected according to quality in a descending order), and the operation data indicating the selected base stations as the other base stations related to the base station at the first position having the highest order in each list, in a state where the selected base stations are arranged in the selected order, are created (column 5, lines 51-59; where the "rank-ordered" list based on RSS corresponds to a ordered list that contains a first, second, third, etc. RSS. Moreover, RSS is a parameter that defines quality. Also, it is inherent in the art regarding quality to consider the highest quality first and move in a descending order if options are required).

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Regarding claim 21, Wallstedt and DeSantis and further in view of Spear teaches all the limitations of claim 20. In addition, DeSantis teaches, where: the related base station selecting procedure includes a score information generating procedure which causes the computer to generate score information corresponding to a number of the same base station located at the same position in each list, when successively selecting the base stations located at the second or subsequent positions in each list having the same base station located at the first position having the highest order in each list, from the base stations located at positions having the higher order in each list (column 5, lines 51-59), and Wallstedt teaches where the operation data created indicate the selected base stations as the other base stations related to the base station at the first position having the highest order in each list, in a state where the score information is made to correspond to the same base station located at the same position in each list, are created (column 5, lines 51-59. Where it is inherent in the art regarding quality to consider the highest quality first and move in a descending order if options are required).

### Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angelica Perez whose telephone number is 703-305-8724. The examiner can normally be reached on 7:15 a.m. - 3:55 p.m., Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone numbers for the organization where this application or proceeding is




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assigned are 703-872-9314 for regular communications and for After Final communications.

Information regarding Patent Application Information Retrieval (PAIR) system can be found at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service number is 703-306-0377.

  
Angelica Perez  
(Examiner)

  
NAY MAUNG  
SUPERVISORY PATENT EXAMINER

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July 19, 2004